

Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application. Material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[]].

In brief, claims 5, 9, 11, 13, 15, 21–24, 28, 34, 35, and 39 have been amended.

1.–4. (Canceled)

5. (Currently Amended) A method of compressing a bone, comprising:

selecting a bone screw including

a shank including a thread disposed externally for threaded engagement with bone, the shank defining a long axis and a direction of advancement into bone, and

a head connected to the shank and defining a plurality of **shoulders** ~~ledge structures~~ disposed at spaced positions generally along the head, each **shoulder** ~~ledge-structure~~ facing generally toward the direction of advancement and extending partially or completely around the head to define a respective plane disposed orthogonally to the long axis; and

installing the bone screw in a bone such that a portion of the bone near the head is engaged by **two** ~~[[one]]~~ or more of the **shoulders** ~~ledge-structures~~ and is urged toward a portion of the bone near the shank.

6. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shank has a proximal portion adjacent the head and a distal portion spaced from the head, and wherein the thread is restricted to the distal portion.

7. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw that is self-tapping.

8. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shank includes a tip region configured to cut a hole in the bone as the bone screw is advanced into the bone.

9. (Currently Amended) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shoulders ~~ledge structures~~ are formed by a plurality of ridges, a plurality of grooves, or both.

10. (Canceled)

11. (Currently Amended) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which one or more of the plurality of shoulders ~~ledge structures~~ extend in a closed loop corresponding to a circle.

12. (Canceled)

13. (Currently Amended) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the plurality of shoulders ~~ledge structures~~ have a corresponding plurality of diameters, and wherein the diameters decrease successively toward the shank.

14. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head is shaped generally as a frustum of a cone.

15. (Currently Amended) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head includes a plurality of steps defined by stepwise decreases in the diameter of the head, and wherein the plurality of shoulders ~~ledge-structures~~ are included in the plurality of steps.

16. (Canceled)

17. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shank and the head define opposing ends of the bone screw and further define an axial bore extending between the opposing ends.

18. (Previously Presented) The method of claim 17, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the axial bore includes a widened region configured to receive a tool that engages the head.

19. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head and the shank are both part of the same monolithic structure.

20. (Previously Presented) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head is rotatably and/or slidably connected to the shank.

21. (Currently Amended) A method of compressing a bone, comprising:

selecting a bone screw including

a shank including a proximal region, a distal region, and a thread disposed externally for threaded engagement with bone and restricted to the distal region, and

a head connected to the shank and spaced from the thread by the proximal region, the head defining a plurality of spaced shoulders ledge structures disposed generally along the head, each shoulder ledge-structure extending in a respective plane to describe at least an arc of a circle; and

installing the bone screw in a bone such that a portion of the bone near the head is engaged by two [[one]] or more of the shoulders ledge-structures and is urged toward a portion of the bone near the shank.

22. (Currently Amended) The method of claim 21, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shoulders ledge-structures are defined by a plurality of ridges, a plurality of grooves, or both.

23. (Currently Amended) The method of claim 21, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shoulders ledge-structures describe complete circles.

24. (Currently Amended) The method of claim 21, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head includes a plurality of steps defined by stepwise decreases in the diameter of the head, and wherein the plurality of shoulders ~~ledge-structures~~ are included in the plurality of steps.

25. (Previously Presented) The method of claim 21, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head is generally frustoconical in shape.

26. (Previously Presented) The method of claim 21, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the shank defines a long axis, wherein the head has a maximum diameter, wherein the head has an axial length that is measured parallel to the long axis, wherein the head has an aspect ratio defined by the axial length of the head relative to the maximum diameter of the head, and wherein the aspect ratio is at least 1:1.

27. (Canceled)

28. (Currently Amended) A method of compressing a bone with a bone screw, comprising:

forming a hole in the bone;

selecting a bone screw having a shank and a head connected to the shank, the head defining a plurality of shoulders ~~ledge-structures~~ disposed at spaced positions generally along the head, each shoulder ~~ledge-structure~~ facing generally toward the direction of advancement and extending partially or completely around the head to define a respective plane disposed orthogonally to the long axis; and

advancing first the shank and then the head of the bone screw into the hole via threaded engagement of the shank with the bone such that a portion of the bone near the head is engaged by two ~~[[one]]~~ or more of the shoulders ~~ledge-structures~~ and is urged toward a portion of the bone near the shank.

29. (Canceled)

30. (Canceled)

31. (Previously Presented) The method of claim 28, wherein the step of forming a hole includes a step of forming a bore and a counterbore, and wherein the step of advancing disposes the head and the shank at least substantially in the counterbore and the bore, respectively.

32. (Previously Presented) The method of claim 28, wherein the step of forming a hole is performed by the step of advancing.

33. (Previously Presented) The method of claim 28, wherein the portion of the bone near the head and the portion of the bone near the shank are separated by a fracture in the bone.

34. (Currently Amended) The method of claim 5, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which one or more of the shoulders flare ~~ledge-structures-slope-radially-outward~~, generally toward the direction of advancement into bone.

35. (Currently Amended) A method of compressing a bone, comprising:
selecting a bone screw including

a shank including a thread disposed externally for threaded engagement with bone, the shank defining a long axis and a direction of advancement into bone, and

a head connected to the shank and including a plurality of spaced shoulders of different diameter, each shoulder facing generally toward ~~[[in]]~~ the direction of advancement and extending partially or completely around the long axis in a respective path defining a plane; and

installing the bone screw in a bone such that a portion of the bone near the head is engaged by two ~~[[one]]~~ or more of the shoulders and is urged toward a portion of the bone near the shank.

36. (Previously Presented) The method of claim 35, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which each shoulder follows a respective path defining a plane oriented orthogonally to the long axis.

37. (Previously Presented) The method of claim 35, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which each shoulder follows a respective path corresponding to at least an arc of a circle.

38. (Previously Presented) The method of claim 35, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which each shoulder extends completely around the long axis in a closed loop.

39. (Currently Amended) The method of claim 35, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which each shoulder flares ~~slopes radially outward~~, generally toward the direction of advancement into bone.

40. (Previously Presented) The method of claim 35, wherein the step of selecting a bone screw includes a step of selecting a bone screw in which the head includes at least one generally cylindrical segment disposed at least partially between a pair of the shoulders.